NOTES ON THE BIRDS OF FORT KLAMATH, OREGON.

BY DR. J. C. MERRILL, U. S. A.

With remarks on certain species by William Brewster.

[*Concluded from p. 262.*]

Coccothraustes vespertina.—A common resident. Several large flocks arrived from the south early in March, and smaller ones were seen until the middle of May, after which only pairs and single birds were observed. During the spring I obtained specimens at short intervals, and from careful dissections of them am convinced that in this vicinity the bird is a late breeder, not depositing eggs before the latter part of June or the first of July. At this time they are generally to be found in the largest firs, and in these trees, rather than in pines, I think they build, at least about Fort Klamath. Indeed, I have twice watched pairs carrying some building material into a huge fir, but was unable to locate the nests exactly and, even if I had, should probably have been unable to get to them, great as the inducement would have been.

Their note is a loud whistling call that may be heard at a considerable distance, and which is often repeated. In winter the crops were filled with seeds and crushed buds, and often fine bits of gravel; in summer insects, and especially caterpillars, were generally found.

It is rather difficult to prepare good specimens of this Grosbeak, for the skin is very thin, tears easily, and many feathers drop out; when one is shot, and in falling happens to strike a branch, so many feathers are generally knocked out that it is not worth skinning. In winter, when there is snow on the ground, good specimens may be obtained by shooting only such birds as will have a clear fall from the branch they are on into soft snow.

There is considerable variation in the color of the bill, and this is independent of sex; in some the entire bill is a clear light apple-green, scarcely or not at all tinged with yellow; in others the maxilla is pale yellowish tinged slightly with green, the mandible being horn color, tinged with greenish yellow only at the tip and cutting edge, and there are many gradations between these extremes. I have seen none in which the bill was "dusky at the base," as stated in 'History of N. A. Birds,' and which is probably the result of drying.

Carpodacus purpureus californicus.—A single specimen killed March 1, one of the next species being also obtained by the same discharge into a small flock which had passed the winter in the valley.

Carpodacus cassini.—Cassin's Purple Finch appears to be a resident species, rare in winter, and arriving irregularly in spring in advance of the general migration of the species, after which it becomes very common.

Single birds were found April 1, in deep pine woods, their loud and beautiful song attracting attention to them as they perched singly on the tops of high dead trees; on this date a male, still in immature plumage, was obtained with difficulty. They did not become common until May 13, when they suddenly appeared in considerable numbers. The nests are placed near the tops of young firs and pines.

Loxia curvirostra stricklandi.—Rather common resident, breeding about the Fort and throughout the mountains. Though not shy they were restless, often taking long flights, and were not easily shot. [The single specimen taken by Dr. Merrill is inseparable, as far as I can see, from Colorado and Arizona skins. For remarks on the latter *vide* Bull. N. O. C., Vol. VIII, pp. 160, 161, and Auk, Vol. III, pp. 260, 261.—W. B.]

Acanthis linaria.—Common during the winter, many remaining till about the first of May.

Spinus ———.—About the middle of August several families of a species of Goldfinch came around the buildings in the Fort, but I was about leaving and was unable to secure any of them for identification. They were very likely *S. tristis*, as this species is recorded by Dr. Mearns as occurring here. A few days later I found *S. psaltria* very common near Ashland on the other side of the range.

Spinus pinus.—Common resident, breeding abundantly in the surrounding mountains.

Poocætes gramineus confinis.—Common, arriving about the first week in April. Unlike my experience in Montana and other parts of the West, the Bay-winged Bunting is not so numerous here as is the Savanna Sparrow.

Ammodramus sandwichensis.—A male taken April 26, the only one seen. It was in a meadow near the marsh, and as it was flushed at once attracted attention on account of its large size as compared with the common form, which was very common in the same locality. [The single specimen sent me by Dr. Merrill seems to be typical.—W. B.]

Ammodramus sandwichensis alaudinus.—Very common summer visitor. [A young ♀ in first plumage, taken July 18, differs from the corresponding stage of *A. s. savanna* in being very much grayer, especially above, where the light edges of the feathers are grayish white with scarce a tinge of buffy or brownish. The dark streaks on the underparts are also fewer and more restricted.—W. B.]

Zonotrichia intermedia.—Common spring and fall migrant. *Z. leucophrys*, given by Dr. Mearns, I did not obtain.

Zonotrichia coronata.—This is much the most common of the Zonotrichias during the migrations, associating with the preceding species and with the Passerellas. It arrived in the spring a little later than *Z. intermedia*, but both species were common by the latter part of April. The song of *coronata* was first heard on May 11. Probably a few remain to breed, but I have not observed any of the genus at that season. They begin to return early in August.

Spizella socialis arizonæ.—First seen May 4, and common ten days later; breeds abundantly.

Spizella breweri.—Rather rare and local, but a few may be found in open brushy plains among sage and greasewood. The exquisite song of this species is utterly unlike the *Coturniculus*-like lisping trill of S. *pallida*, and is most often heard about twilight and dawn.

Junco hyemalis oregonus.—None were observed during the winter. A small flock arrived March 6, after which it soon became extremely common, but comparatively few remained to breed.

Melospiza fasciata heermanni.—A few pass the winter in dense thickets bordering the smaller streams, along the margin of which it finds an abundance of food when snow covers the ground. Migrants return early in March, and it soon becomes common, but is at all seasons closely confined to the brush near water. [The five Song Sparrows (including one in first plumage) taken by Dr. Merrill seem to be nearer *heermanni* than to any other form, although they incline somewhat to *guttata* and *montana* also. They are evidently intermediates connecting at least two and perhaps all three of the subspecies just mentioned.—W. B.]

Melospiza lincolni.—A single specimen, shot March 14, was with a troop of Mountain Titmice in a pine tree, the ground being still covered with snow. The species was not again observed until May 5, when a female was taken. Breeds not uncommonly among the willows bordering many of the valley and mountain streams, when its sweet, somewhat wren-like song is often heard.

Passerella iliaca unalaschcensis.

Passerella iliaca megarhyncha.—Both these forms occur as common migrants. While it is probable that the latter may breed in this vicinity, I obtained no evidence of its doing so.

Pipilo maculatus oregonus.—A pair seen and the male secured March 7, the snow being still deep. These Towhees seem to be decidedly rare about the Fort as but one other specimen was seen during the spring and summer, although there is much cover apparently just suited to them. [The male above mentioned has the rufous of the sides about as in Rocky Mountain specimens of *megalonyx*, but the white markings of the back, wings and tail are nearly as restricted as in true *oregonus*. Typical examples of the latter seem to come only from the coast of Washington Territory and northern Oregon, all the birds that I have seen from California being very like this Klamath specimen.—W. B.]

Pipilo chlorurus.—Rather common during summer, and not so closely confined to brush and thickets as are others of the genus. Besides its pleasant song and the alarm note, there is another, rarely heard and apparently only when the bird's curiosity is excited without alarming it; this is a loud and distinct *mew-wée*, which is very characteristic.

Habia melanocephala.—A male killed June 11, the only one seen.

Passerina amœna.—Quite common, arriving about May 20, and breeding among willows and manzanita bushes.

Piranga ludoviciana.—Arrives in the spring about the first of May, and soon becomes very common among the firs and pines, in which the brilliant plumage of the males shows to great advantage. The song is much like that of the Robin, but is more rapidly given. Here this Tanager is

very tame and unsuspicious; it is an expert flycatcher, and also feeds much on the ground. The nests are usually placed on the horizontal branch of a fir or pine, sometimes but a few feet from the ground, at others fifty or sixty feet above it. One nest found just outside the Fort was in a young aspen about six feet from the ground; the foundation was a mass of dry twigs, the lining being of rootlets and horsehairs; the internal diameter was three, the depth one and a half inches. On June 20 the full complement of eggs was three, averaging .91 × .62 inches; the ground color is a clear green, sparingly spotted with brown which in one specimen forms a ring at the larger end.

Petrochelidon lunifrons.—Common, nesting abundantly in the buildings about the Fort.

Chelidon erythrogaster.—Common.

Tachycineta bicolor.—Arrived April 4 in small flocks, and was common by the middle of the month; breeds.

Tachycineta thalassina.—Very common at the outlet of Diamond Lake early in August. Not noted in the immediate vicinity of the Fort, but undoubtedly occurs there.

Stelgidopteryx serripennis.—A few pairs breed in the banks of the streams near the Fort, but there are few suitable places, as the edges of the streams are usually low and grassy. Nests examined June 18 contained half-fledged young; the burrows were about two feet in length, and were much larger than those dug by the Bank Swallow.

Ampelis cedrorum.—Three seen on May 25.

Lanius ludovicianus excubitorides.—Seen occasionally during autumn and early winter. [No specimens taken. The form should perhaps stand as *L. l. gambeli.*—W. B.]

Vireo gilvus swainsoni.—The Western Warbling Vireo arrives about the middle of May, two weeks later than does the next species, and both are very abundant during the summer; nowhere have I found any Vireo so common as are these species at Fort Klamath. They are readily identified by their notes, which are characteristic and quite unlike. The present species is partial to aspens, almost every group of which is the home of one or more pairs.

Vireo solitarius cassinii.—Unlike most Vireos this one, as observed at Fort Klamath, shows a marked predilection for pines and firs, and is found almost everywhere among these trees. It is also found, but much less frequently, in aspen groves with the Warbling Vireo. The nests are built in low manzanita or buck-brush bushes that grow throughout the pine woods.

Helminthophila celata lutescens.—First seen and several specimens obtained on May 5; they soon became common, and rapidly passed on to the north, though a few remained to breed.

Helminthophila ruficapilla gutturalis.—First taken May 26. The loud song of the males betrays their presence and abundance, but they are restless, shy, and very difficult to shoot. The song has some resemblance to that of the Yellow Warbler, but once recognized it cannot be mistaken. This species is quite common during the breeding season, preferring

groves of aspens with pine trees growing among them. They feed mostly among the aspens, searching for insects after the manner of their allies; at intervals they fly up into the pines, but soon descend to renew their search for food, sometimes visiting the wild currant bushes, but rarely touching the ground. When alarmed, as they very easily are, the males move rapidly through the trees, often flying a hundred yards or more at once, and were it not that their constant song indicates their movements, it would be impossible to follow them. I have frequently followed one for half an hour or more before I could even catch a glimpse of it, and my pursuit of any particular one was more often unsuccessful than the reverse. Sometimes on being alarmed one would at once fly up into a lofty pine, and far out of reach of small shot would remain quietly on one branch, yet singing often, as long as I remained in the vicinity, and this it would do whenever I visited its especial haunt. On the whole the habits of the Calaveras Warbler in this locality are very characteristic, and in a somewhat extended field experience I have never found a land bird more wary and difficult to shoot. But as soon as the young leave the nest this extreme shyness disappears, and the parents are readily approached and observed as they busily search for food for their young family.

Dendroica æstiva morcomi.—Common, arriving early in May. One nest was found in a young pine, although many aspens, in which they generally build, were growing near.

Dendroica auduboni.—Extremely abundant during the migrations. A few males were seen at Modoc Point on the 8th and 9th of April, and at the Fort on the 15th; by the 20th they were quite plentiful. A second "wave" composed of both males and females, which latter had not previously been seen, arrived about the 4th of May, when they suddenly became more abundant than ever, bringing *D. æstiva morcomi* and *H. lutescens* with them. By the middle of the month there was a noticeable diminution in their numbers, and ten days later they were rather uncommon, but a few pairs remained to breed about the Fort and in the surrounding mountains.

Besides the common song Audubon's Warbler has another, quite different and more rarely heard, and which caused the sacrifice of several specimens to identify the species; this seems to be reserved for the middle of the day when, after a satisfactory morning's search for insects, the bird sits quietly for an hour or more on the same branch, occasionally uttering the notes referred to. On two or three occasions I have heard a very sweet and peculiar song by the female, and only after shooting them in the act of singing could I convince myself of their identity.

Dendroica townsendi.—On the 14th of May I shot a male that was searching for insects near the top of a fir.

Dendroica occidentalis.—A full-plumaged male taken May 12; the bill of this specimen was dark olivaceous, not "jet black" as stated in 'History of N. A. Birds.' It is probable that this and the preceding species, and also *D. nigrescens*, are not uncommon here during the migrations, but their habit of frequenting the upper third of the highest firs renders their collection a matter of great difficulty, and the height is too great to identify them by sight. During the month of June I frequently heard

and saw a bird at the head of Fort Creek that was certainly a *Dendroica*, and doubtless one of these three species, but it kept in the tops of the highest firs and pines and I was unable to shoot it; the song was something like that of a Chipping Sparrow, but harsher and more run together.

Geothlypis macgillivrayi.—First seen May 11, and soon became abundant, many remaining to breed. The song of the male is characteristic and rather sweet, unlike that of *G. philadelphia* and yet having a certain resemblance to it.

Geothlypis trichas occidentalis.—The habits of the Western Yellowthroat in this vicinity, as regards its favorite resorts, are quite unlike what I have elsewhere observed. Though the numerous streams offer it the same rank undergrowth along their swampy edges that it in other places prefers, yet it is rarely seen in such situations.* A few are found among the low willows growing in the marsh, but its favorite haunt, and one in which it is very common, is among the tules in company with Marsh Wrens and Yellow-headed Blackbirds. During the nesting season the males frequently mount a few feet in the air, and exactly imitate the eccentric movements of the Yellow-breasted Chat.

Sylvania pusilla pileolata.—Several seen May 6, and extremely common a few days later. Breeds in considerable numbers in the swampy willow thickets along Wood River and Fort Creek, the loud, sharp notes of the males indicating their abundance.

Anthus pensilvanicus.—Common during the migrations.

Cinclus mexicanus.—Not uncommon resident.

Troglodytes aëdon parkmanii.—Common, but less so than I have found it in many parts of the West. [The single specimen in the Klamath collection must apparently be referred to *parkmanii* as now restricted, although its coloring is darker and browner than in *T. aëdon* instead of "lighter or more tawny" as should be the case withtypical *parkmanii*, according to Mr. Allen*.—W. B.]

Troglodytes hiemalis pacificus.—Common during autumn, and in winter until the commencement of the January storms, the snow soon covering its favorite brush piles and manzanita scrub, and probably driving it south; but I did not detect it in the spring on its way north. A pair were seen July 6 near the head of the east fork of the Des Chutes River, at an altitude of about fifty-six hundred feet. [Dr. Merrill's specimens are typical *pacificus*.—W. B.]

Cistothorus palustris paludicola.—Very common in summer among the tules in the marsh, and a few pass the winter in the same locality. In August several pairs with young were found among the rank marsh grass at the head of Diamond Lake at a height of over five thousand feet. The breeding habits here are much as they are in the East; the nests were usually among tules, more rarely among flags.

Certhia familiaris occidentalis.—In no part of the West have I found the Creeper so abundant as at Fort Klamath. During the winter every troop of Mountain Titmice, Kinglets, and Pygmy Nuthatches, and these

* See the Auk, Vol. V, p. 164.

were very numerous, was accompanied by two or three Creepers. In April they gradually became less common, many apparently going with the Nuthatches into the mountains. Several pairs bred in the immediate vicinity of the Fort, however, and during the winter I found several of their characteristic nests, hidden by loosened scales of bark, usually on pines but once or twice on aspens. On June 6 I noticed a pair feeding fledged young; one of the latter was at the entrance of a Woodpecker's hole in a pine tree about sixty feet from the ground, and was frequently visited by the parents with food. It is probable that in this cavity the brood passed the night, for I hardly think that the nest was in it, and the other young birds were in the surrounding pines. On the same day another pair were seen several times to pass under a large scale of bark on a dead pine at a height of about fifty feet; their nest was doubtless there, but it was inaccessible.

[The characters by which it has been proposed to separate the Creeper of the Pacific Coast region, under the name *occidentalis*, are strongly and uniformly presented by the series of eighteen specimens taken by Dr Merrill at Fort Klamath. Indeed, as Mr. Ridgway has asserted in reinstating the subspecies in the Manual (pp. 557, 558), *occidentalis* "differs quite as much from the typical (Eastern) bird as does the Mexican form, to which it cannot be referred."—W. B.]

Sitta carolinensis aculeata.—Common during winter, but breeding more commonly in the higher mountains than about the Fort.

Sitta canadensis.—About as common as *S. aculeata*.

Sitta pygmæa.—Very common during winter, the majority going higher up the mountains to breed, but to no great distance, and at all seasons it is more abundant near the Fort than either of the other Nuthatches. Dr. Coues, in his 'Birds of the Colorado Valley,' says that the iris of this species is black; in all the specimens I have examined the iris was brown. Here, as in other parts of the West, its habits are quite unlike those of *aculeata* and *canadensis*, a dozen or more being generally found together, noisy, restless, and actively searching for food near the extremities of pine and fir branches, often picking off insects while fluttering and poised in the air.

Parus gambeli.—Perhaps the most common resident species at Fort Klamath, and in winter seldom out of sight or hearing. No form of either *rufescens* or *atricapillus* was obtained, though carefully searched for. The Mountain Chickadee has all the habits of its allies, with perhaps a greater variety of notes. During the winter its hoarse *dee-dee* is the most common, but as spring approaches this is less frequently heard, being partially replaced by a variety of others. The most characteristic spring note, which is occasionally heard throughout the year, is *pe-wee*, as clear, soft and beautiful as that of the Wood Pewee, and which it much resembles. Early in April they begin to separate in pairs, but small flocks may be seen until May. As the nesting habits and eggs of this Tit are not very well known, I will describe the five nests that I found. The females usually sit very close, and when disturbed keep up a constant hiss-

ing, so much like that of some snakes that no prudent squirrel would venture to enter the hole.

A nest found May 25 was in an old Woodpecker's hole in an aspen stub about ten feet from the ground. Five fresh eggs, averaging .62 by .47 inch, lay *in* a thick bed of tufts of hair from some small mammal.

A set of six fresh eggs, taken June 1, average .65 by .51 inch. The nest was at the bottom of a *Colaptes* excavation in a partially dead aspen, the entrance being large enough to admit my arm. The usual thick mass of fur was at the bottom, and *in the middle of this mass*, as in the first nest, were the eggs. In the succeeding cases incubation had begun and the eggs were upon the nest lining, exposed as usual; it may be that this species is sometimes in the habit of burying its eggs in the lining until ready to sit.

Six eggs were taken June 2 from a nest in a rotten pine stump about three feet from the ground; there had been a natural opening in the bark and stump, and the cavity had been enlarged and shaped by the birds. The wide bottom of the excavation had been covered with a thick level bed of fur in which was a sharply cupped cavity for the eggs, which average .63 by .48 inch.

A fourth nest, found June 6, was in a Woodpecker's cavity in a pine stump about three feet from the ground. As I approached, the female appeared for a moment at the entrance of the hole, but returned to the nest, from which I had to lift her after splitting open the stump. The eggs were six in number, and average .64 by .47 inch.

A nest found July 4, at Corral Spring, was in a pine, and about six feet from the ground; the eight eggs average .66 by .50 inch.

A few feet from this nest was another of the same species containing young.

Of these five sets of eggs two are entirely unspotted; in two, one or two eggs are pure white, the others having faint light brown spots, mostly at the larger end; in the other set two of the eggs are quite unmarked, but the others have distinct reddish spots.

Psaltriparus ——— .—A Least Tit was rather common during the fall migration in August, but was not observed in spring. Although no specimens were obtained, I think that all of those seen were either *minimus* or *californicus*. Mr. Henshaw, however, found *P. plumbeus* "among the barren piñon hills near Carson City," Nevada.*

Regulus satrapa olivaceus. — Very common in autumn, and in winter until the middle of January, when stormy weather began and continued with scarcely an intermission until March. None were then seen until March 18, but they soon became as abundant as before, and so continued until about the middle of April; none were seen in the vicinity of the Fort after April 25. In July and August this Kinglet was found quite abundant in the mountains above 5500 feet, at that height entirely replacing the next species. The males were still in full song, and with the females

* Wheeler's U. S. Geog. Surv. Rep. for 1879, p. 288.

were feeding their young. [Two specimens, both males, are nearest *olivaceus*, but still not typical of that form.—W. B.]

Regulus calendula. — Very common during the migrations, arriving March 21 and numerous three days later. They continued in great abundance for about a month, when there was a diminution in their numbers. Many pairs breed around the Fort, apparently placing their nests in dense firs. On July 9, at Beaver Meadows, a female was noticed feeding six scarcely fledged young that were sitting close together on a dead twig of a pine tree, in which the nest was probably placed although I could not find it. In July and August this species was found in abundance in the mountains north of the valley up to a height of about five thousand feet. Very few of either species were seen in the next five hundred feet, above which only *olivaceus* occurred. These heights were determined on several mountains by barometric observations, and the distinct range of the two species was very noticeable.

Myadestes townsendii. —A male taken May 3, and another seen two days later. A few were noticed in July and August in the mountains, where they probably breed. No song was heard. In flight and attitudes this species reminded me much of a Bluebird.

Turdus ustulatus.—Arrived about May 20, a few nesting near the Fort and in suitable situations in the mountains. Its loud, sweet song was frequently heard about sunrise and sunset, but the birds were shy and difficult to shoot. A nest found June 8, containing four fresh eggs, was in a dense willow thicket, and placed on a horizontal branch about two feet from the ground.

Turdus aonalaschkæ.—A female taken April 29. Not again seen until May 11, when after a few days of cold and stormy weather it was found abundantly. They were silent, and rapidly passed on to the north, being seen for about a week only. The basal half of the mandible varies from pale flesh color to a decided yellow, but this is irrespective of sex. [Four spring specimens (one taken April 29, the other three May 11) are well within the maximum limits of size ascribed to *aonalaschkæ* (their wing measurements are: ♂ ♂, 3.50, 3.55, 3.55; ♀, 3.23 inches), but their coloring is very much paler than in any of the California examples before me and, in fact, quite as gray as in average Colorado specimens of *audubonï*. — W. B.]

Merula migratoria propinqua. — Rare during the winter. Arriving March 7, it became common in three or four days. By the first of May many nests contained their full complement of eggs.

Hesperocichla nævia.— From various sources I learned that this bird was rarely seen in autumn, but that in March it was generally very abundant and tame, coming about the houses in the Fort as plentifully and as fearlessly as the common Robin. I saw none in autumn, and in the spring observed a single specimen only, a female, which I shot April 13, although at both seasons I kept a sharp lookout for the bird.

Sialia mexicana.—First seen April 4, and three days later was common in small flocks. Breeds about the Fort in greater numbers than does the next species.

Sialia arctica. — Common migrant; arrived March 27 in considerable numbers. Breeds, but very sparingly, near the Fort; higher in the mountains it is common, and there replaces *mexicana*.

Tringa minutilla. — This species was accidentally omitted from the first instalment of the present paper. I took a single specimen July 10.

NOTES ON THE HABITS, NESTS AND EGGS OF THE GENUS *GLAUCIDIUM* BOIE.

BY CAPT. CHAS. E. BENDIRE.

THE GENUS *Glaucidium* was instituted by Boie in 1826. Only two species and one additional subspecies are found within the limits of the United States, as far as is known at present. These are

Glaucidium gnoma Wagler, the PYGMY OWL.

Glaucidium gnoma californicum Sclater, the CALIFORNIA PYGMY OWL.

Glaucidium phalænoides (Daud.), the FERRUGINOUS PYGMY OWL.

The true *G. gnoma* is found in Mexico, throughout the middle province of the United States, north to Oregon (Fort Klamath and Camp Harney) and Colorado. *G. gnoma californicum* is restricted to the Pacific Coast proper, between San Francisco Bay and British Columbia, inclusive. These little Owls, I believe, are resident throughout the year wherever found.

The general habits of the Pygmy Owl are by this time pretty well known, and there remains little for me to add to their life history, that is really new. It is a well-established fact, that it is quite diurnal, and hunts its prey, to a great extent at least, during the daytime, its food consisting not alone of grasshoppers and other insects, as some of the earlier naturalists surmised, but also of birds and the smaller rodents, some of the latter considerably heavier than itself.